

Claims

1. A method of increasing the effective intracellular concentration of a therapeutic molecule within a cell expressing a P2X₇ receptor, the method comprising the step of contacting the cell with the therapeutic molecule and with a substance which modulates the P2X₇ receptor.
2. A method according to claim 1, wherein the method comprises the step of contacting the cell with the therapeutic molecule and with a substance which stimulates the P2X₇ receptor.
3. A method according to claim 1 or 2, wherein the therapeutic molecule is a cytotoxic drug and it is desired to kill the cell.
4. A method according to any one of the preceding claims, wherein the P2X₇ receptor modulating substance comprises ATP, an analogue of ATP, or an immunoglobulin or immunoglobulin-like variant which possesses specific binding activity for the P2X₇ receptor.
5. A method according to any one of the preceding claims, wherein the cell expresses an efflux protein which is inhibited by stimulation of the P2X₇ receptor.
6. A method according to claim 5, wherein the efflux protein which is inhibited is one or more selected from the group consisting of: P-glycoprotein; mitoxantrone resistance protein; and a member of the multidrug-resistance associated family of proteins.
7. A method according to any one of the preceding claims, wherein the therapeutic molecule and the P2X₇ receptor modulating substance are co-administered.

8. A method according to any one of the preceding claims, wherein the cell is contacted with a substance which inhibits the activity and/or expression of CD45.
9. An *in vitro* method in accordance with any of the preceding claims.
10. Use of a P2X₇ receptor modulating substance in the preparation of a medicament to cause rearrangement of at least part of the lipid or phospholipid or glycolipid component of a cell membrane.
11. Use of a P2X₇ receptor stimulating substance in the preparation of a medicament to regulate the activity of a cell membrane protein.
12. Use of a P2X₇ receptor stimulating substance in the preparation of a medicament to inhibit an efflux protein in a cell.
13. A use according to any one of claims 10-12, further comprising use of a substance which inhibits the activity and/or expression of CD45.
14. A pharmaceutical composition for administration to a mammalian subject, the composition comprising: a therapeutic drug; a P2X₇ receptor modulating substance; and a physiologically acceptable carrier, diluent or excipient.
15. A pharmaceutical composition in accordance with claim 14, the composition comprising: a therapeutic drug; a P2X₇ receptor stimulating substance; and a physiologically acceptable carrier, diluent or excipient.
16. A pharmaceutical composition according to claim 14 or 15, further comprising a substance which inhibits the activity and/or expression of CD45.

17. A method of making a pharmaceutical composition comprising the step of combining in a mixture a therapeutic drug, a P2X₇ receptor modulating substance, and a physiologically acceptable carrier, diluent or excipient.
18. A method of making a pharmaceutical composition in accordance with claim 17, the method comprising the step of combining in a mixture a therapeutic drug, a P2X₇ receptor stimulating substance, and a physiologically acceptable carrier diluent or excipient.
19. A method according to claim 17 or 18, comprising further combining the ingredients recited in claim 17 or 18 with a substance which inhibits the activity and/or expression of CD45.
20. A method of inhibiting the action of a cell membrane efflux protein, the method comprising the step of contacting a cell expressing a P2X₇ receptor with a substance which causes activation of the P2X₇ receptor.
21. An *in vitro* method of inhibiting the action of a cell membrane efflux protein in accordance with claim 20.